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Implications from Education of the Visually  
Handicapped for Early Childhood Education

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The early childhood development of visually impaired children can differ both qualitatively and quantitatively from that of normal children. Quantitative differences arise as a consequence of possible disparities in the rate of development which may be imposed by the handicap or its associated factors (Fraiberg, Smith, & Adelson, 1969; Lowenfeld, 1971; Scholl, 1973). Qualitative differences arise as a consequence of denial to the visually handicapped of certain opportunities for experience and of differential emphasis on touch and hearing as sensory channels. Educational efforts to overcome these differences have implications for early childhood education of blind, other handicapped, and normal children.

Lowenfeld (1962) succinctly described the restrictions imposed upon the individual by blindness as in the (a) range and variety of experience, (b) ability to get about, and (c) control of the environment and of the self in relation to it. Although many visually handicapped children have useful residual vision, these restrictions still apply in part. The effects of these restrictions are as follows:

1. Persons with severe visual impairments must build up their conception of the world through the use of their remaining senses, that is, touch, audition, and kinesthesia. Hearing, which provides certain clues with respect to direction and distances, provides very few concrete ideas of object quality. One learns little about the shape, color, and size of



a bird from its song. The perception of spatial objects can be achieved only by touch and kinesthesia. But tactual spans are severely restricted and large objects can be inspected only sequentially. Many phenomena are of a size that prohibits tactual inspection; many others are not available to tactual inspection because of physical inaccessibility (clouds), smallness in size (ants), fragility (soap bubbles), or motion; and many are dangerous to inspect tactually.

2. The inability to get about prevents the individual from voluntarily changing his environment to experience the varieties of opportunities for observation and activity that are open to the sighted person. Thus, blind persons are limited from infancy in their ability to expose themselves to both environmental and social experiences. Access to such experiences is largely dependent upon assistance from others, which affects blind persons' social relationships and attitudes, consequently.

3. The inability to control the environment and the self in relation to it, though less obvious, is all-pervasive and often subtle in its effects. Vision is the sense that allows, at a distance, the opportunity to determine object qualities and acquire information about the relations of form size, and position. Vision allows one to orient oneself to the environment while remaining stationary. In the social sphere, vision allows opportunity for a wide variety of nonverbal communication through facial expressions or bodily gestures. Consequently, the lack of vision causes a detachment from the physical and, to a lesser extent, the social world.

Despite these difficulties, a major premise of most specialists who deal with visually handicapped children is that the developmental and educational goals for them should be identical with those for normal



children. It is recognized that ordinary educational techniques and media may be inadequate for goal attainment and that special efforts in educational systems development may be necessary. Nolan (1969), described the ideal in the following terms:

The ultimate goal . . . should be the development of educational systems for the visually handicapped. Briefly stated, this approach requires description in detail of the learning tasks imposed by the school goals or curriculum, description in detail of the capabilities of visually handicapped students for attempting these tasks, and development of the necessary interventions to maximize the probability that handicapped students master these tasks through the fullest use of the capabilities they possess. . . . these necessary interventions include educational media, educational techniques for learning and teaching, and the means of assessing task mastery. (p. 242)

This conception can be extended into the preschool years.

A decade ago, Lowenfeld (1962), drawing in an eclectic fashion from educational practices spanning two centuries, identified and described five principles which seem basic to the teaching of visually handicapped children.

1. The principle of individualization states that programming for each child should be based on his individual needs as determined by such factors as degree of visual defect, cause of blindness, age of onset of handicap, current eye condition and required eye care, and home environment, as well as those factors commonly considered in all educational programming. The objective of this principle is to avoid programming based on a generalized concept of blindness.



2. The principle of concreteness stresses the importance of direct experiences in the developmental and educative processes. Naming things to the blind child and describing their physical or other attributes is not an adequate way to teach him about them. He needs direct and immediate experience with objects in order to attain concepts of them which are valid in terms of his own sensory capacities. The concept of a dog, acquired through a verbal description and through listening to its bark is not the same as that concept which is augmented by actual tactual inspection and manipulation of a stuffed dog. In turn, that concept is less real than that obtained through tactual inspection of a live dog. Only through emphasis on immediate experience, can we diminish the probability that the child's conceptual world will be overburdened with verbal unrealities.

3. The principle of unified instruction is directed against departmentalization in the child's acquisition of knowledge. The visually impaired child is at a great disadvantage in experiencing objects and situations in their totality. Vision is the sense through which we can scan the environment in detail and interrelate its parts into a visualized conceptual whole. At the same time, we can correlate visual information with that obtained through our other senses and associate causes with effects. Without vision's unifying effects, the blind child may not realize that the sound he hears, the odor he smells, the form he feels all may emanate from the same source. He will fail to realize that the breeze he feels on his cheek is also moving trees, clouds, and other objects in the environment. His conceptualization of a supermarket may consist merely of a series of noises, smells, and tactile-kinesthetic impressions organized sequentially in a time frame. In order for the child to gain organized, interrelated concepts of his environment, instruction must be



especially designed so that he experiences given situations as wholes or units.

4. The principle of added stimulation is essential as a consequence of the blind child's limited mobility. As compared to the sighted child, the blind child's field of exploration is extremely confined. The parents or teachers of visually handicapped children must widen each child's field of experience by either taking the child to the experience or bringing the experience to her/him. Regardless of the route elected, much preparation is required to maximize the returns from such efforts. Field trips or imported demonstrations must be thoroughly reconnoitered. Parents or teachers must analyze environments in terms of the sound, smell, and touch qualities through which they can become known to their children. Blind children who have limited opportunity for outside excursions and contacts can benefit from every phase of a project if their need for additional stimulation is kept clearly in mind and time and energy are channeled to meet this need.

5. The principle of self-activity implies that the blind child should be taught to do as many things for himself as his capabilities and available time allow. Teaching is necessary for the most commonplace activities. Because of his lack of sight, the child is unable to observe and imitate others. Consequently, many activities beginning with those as simple as locomotion and extending to those as complex as social interaction must be taught directly to blind children.

These principles may become more meaningful if they are illustrated by the solutions of actual developmental problems experienced by the visually handicapped. Problems from the areas of language, motor, social-emotional, and cognitive-perceptual development are considered as well as



academic problems. Finally, the principle of unified instruction is illustrated.

In the case of oral language development, Lowenfeld (1971) described the difficulty severely visually impaired children may experience in connecting words with their objects. For example, a blind child may come to know through listening

that people can tell time by looking at the clock on the wall.

To a seeing child, the clock with its face and two hands is a very familiar object. To the blind child, it will remain a word without real content unless he is shown the clock (individualization) and its parts are explained to him (concreteness). (p. 67)

Kurzhalts described efforts to develop the ideas that reading is (a) talk written down and (b) the description of familiar objects. This effort represents a concrete approach to the overcoming of developmental deficits that arise from lack of relevant experience with books prior to school entry. In the first case, the approach is individualized and self-activated by writing out stories the child tells about his own experiences and putting them into the form of braille books. In the second case,

books made of such things as beads, buttons, buckles, balls of cotton, ribbon, and various kinds of pins fastened to heavy cardboard are introduced. The child looks at the object and finds immediately below the object Braille words which tell about that at which he just looked. (Kurzhalts, 1966, p. 107)

Thus the child learns he can read what he says and that words can tell about objects that are familiar to him.



Examples of developmental problems in the motor areas are abundant. Two examples from infant development are revealing. A major problem in the development of very young visually impaired children is that they lack the stimulation to activity normally arising from the sight of attractive objects in the environment. Fraiberg et al. (1969) pointed out the delay in reaching behavior imposed on the infant by the necessity for prior development of hand-ear coordination. Active provision of a variety of sound stimuli within the crib and elsewhere to enhance this development was described by Lowenfeld (1971); it is, of course, concrete, individualized, self-activating instruction. Development of creeping by blind infants is dependent on prior development of hand-ear coordination. Fraiberg et al. (1969) stated, "When a baby can demonstrate readiness for creeping and reach on sound cue alone, one can initiate the pattern for creeping by providing him with a favorite sound toy just beyond his reach." (p. 135)

Lack of vision impedes imitation. Inability to imitate may delay the acquisition of such rudimentary motor skills as chewing. The parent may have to provide individualized, concrete experience that stimulates self-activity. As Bryan (Note 2) stated, "Most babies naturally put things in their mouths . . . and automatically learn about chewing. If this does not happen with your child, . . . place his hands on your cheeks as you chew." (p. 13) Halliday (1970) described the steps necessary to teach stair climbing.

At first another person might go up a step or two beside him, encouraging and helping him explore and understand what is happening through the repeating of actions. Later, coming down can be done in the same fashion with only a few steps



involved initially. The youngster's foot use may be helped if his feet are placed one at a time on the step, with hand position adjusted on the railing. (p. 30)

In the social-emotional area, both Fraiberg et al. (1969) and Lowenfeld pointed out the need for the mother to purposely talk to her infant to replace the visual contact ordinarily open to the sighted infant and its mother. This application of the principle of added stimulation is important to the infant's emotional security.

If your child cannot see you smiling, he needs to become more aware of your love and interest in him by your talking to him. . . . He will soon know that the words with which you accompany the things you do for him are spoken as the loving accompaniment of actions which are pleasant to him, just as (sighted) children quickly learn that a smile means approving friendliness. (Lowenfeld, 1971, p. 22)

The blind child must be explicitly guided into sociability. Much desire to get acquainted with others, to be with others, to play with others develops from one's observing the personal and social activities of others. . . . The visually impaired child has to learn, first, how to be aware of the presence of another person. Bringing him "in touch" with other children and telling him about them will give him a good start. Useful thoughts in this area concern the value of the child's learning to shake hands, and to turn his head in the direction of those with whom there is contact. (Halliday, 1970, p. 62)

In the cognitive-perceptual area, Barraga (1964) demonstrated that individual analysis of low-vision children's level of visual function,



followed by individualized programs of unified instruction emphasizing added stimulation, can result in increased levels of useful vision. This research has been replicated over a wide range of chronological age. In the area of listening, Nolan and Morris (1969) showed that causing visually impaired children to increase their levels of self-activity through mental review or note taking can result in significant increases in the amount of material recalled.

Applications of Lowenfeld's principles in the general education area can be demonstrated. Retardation in arithmetic achievement (Nolan, 1959) has long been a problem of the visually impaired. However, it has been demonstrated that providing concrete means for learning computation with its accompanying self-activation in the computational process can lead to increase in achievement (Brothers, Note 1; Nolan & Bruce, 1962; Nolan & Morris, 1964).

Individualizing instruction, making instruction and experiences concrete, providing added stimulation, and increasing self-activity often add to the total time required for instruction. This reason alone emphasizes the necessity for unified programs of instruction with their accompanying increase of efficiency. However, following this principle also helps tie concepts together on a broad basis. The following summarized lesson plan exemplifies unified instruction. It is taken from a developmental readiness program recently published by Kurzahls (1974).

#### Environmental Experiences: Food

The object of the lesson is to teach children about food through environmental experience, that is, a visit to a vegetable garden. However, as planned, the visit is an integrated experience focused on developing understanding of the physical environment, oral language skills, skills in listening and following directions, tactual and manipulative skills,



beginning mobility concepts, and ability to think and make decisions.

The children are motivated toward the trip by active participation in the planning, learning songs about food, and discussing vegetables: the different ones they eat, how they are planted and grown, and where vegetable gardens may be found and how they can be reached. Additional interest is engendered by speculations on the potential side experiences of the trip.

During the actual trip to the garden, previous ideas about vegetables and their growth are reviewed. Preparation of vegetables for eating is discussed, and the children identify which may be eaten raw and which must be cooked. Once there, the children walk up and down the rows. They discuss how things can be arranged in rows and how long the rows are. Children identify vegetables through tactual exploration of size and shape. Vegetables are actually picked, pulled, or dug up by the children. The vegetables are compared physically and they are categorized, placed in containers, and counted. Factors such as size, shape, texture, and color are described and discussed. The children can compare their own statures with the size of plants like corn.

On the return trip, each child recounts what he was able to do, relates what he experienced to the original plan he made, and describes what he liked best and what he learned that was new. Once back in the classroom, the child orally reviews his experience. This review may be recorded or written down for later class presentation. The children can compare the vegetables they have brought back for likenesses and differences. Real vegetables can be compared to plastic or other models and the likenesses and differences discussed. The children should prepare some of the vegetables for eating. Tastes and textures of raw and cooked portions can



be made among the same and different vegetables.

Through such coordinated experiences, the objectives mentioned at the beginning of the lesson can be obtained. The critical element is identifying, integrating, and maximizing the learning aspects inherent in the total experience.

### Conclusion

The general principles of designing successful management techniques to enhance the early development of visually handicapped children may be briefly described as follows: The passive must be made active, the implicit made explicit, the abstract made concrete, and the vicarious made real; all with emphasis on the needs of each child.

With respect to the application of these practices to the early childhood education of other handicapped and normal children, it may be useful to explore some of them as means of facilitation. However, to the extent that they serve as substitutes or adjuncts to capacities in other children that are, in fact, superior, or more efficient than those possessed by visually impaired children, their application may only serve to unnecessarily retard or complicate. Practices defined and initiated to enhance the development of visually handicapped children indeed may find positive application in the case of children whose difficulties interfere with direct environmental contact or restrict the extent of their interactions with the environment. This latter group would include children affected by most of the handicapping conditions falling under the special education umbrella.

